CONDUCT OF OPERATIONS COURSE

Title: Case Study Two: Retention Basin Pumpdown

Reference:
(a) DOE 5480.19, Conduct of Operations Requirements for DOE Facilities
(b) DOE-EM-STD-5505-96, Operations Assessments

Activities: Using the case study materials, the student will:

1. Determine how to assess DOE 5480.19, Chapters 16, Operations Procedures, 17, Operator Aids, and any other pertinent chapters.

2. Practice collecting information needed to support a deficiency.

3. Formulate and write down deficiencies and support them with well researched facts.

Objectives: The above activities support student performance of the following:

1. Refer to a copy of DOE 5480.19 and locate applicable guidelines and requirements for specific activities. (1.a)

2. For each of the eighteen chapters in Attachment I to the Order, explain how each chapter contributes to an effective and safe operational environment. (1.b)

3. Identify the key elements of assessments, surveillance, and audits, and their application (1.c)

WASTE TREATMENT FACILITY RETENTION BASIN PUMPDOWN

You are assessing a waste treatment facility (WTF) that processes contaminated waste and discharges the effluent to the environment. This facility is also responsible for the retention basins that collect potentially contaminated rainwater runoff.

During the assessment, you are following an operator performing his rounds. The Shift Supervisor says to the operator "Go out to retention basin "A", and pump it down". The operator goes to the remotely located basin and enters the pump house. Inside the pumphouse you observe the operator pull down a laminated copy of the procedure from the wall and pick up a grease pencil to check off each step when completed. The site procedure guidelines require the operator to follow the procedure verbatim and refer to it while conducting the evolution.

The operator's first step is to sample the retention basin water (it was also sampled one hour earlier). He refers to the procedure and checks the pump suction valve open, the pump recirculation valve open, and then starts the pump. These steps follow the copy of the procedure that you pulled from the filing cabinets in the control room. The operator fills, caps, and labels a sample bottle to be delivered to the chemistry lab for sampling. However, the procedure states that a sample must be analyzed prior to initiation of basin pumpdown.

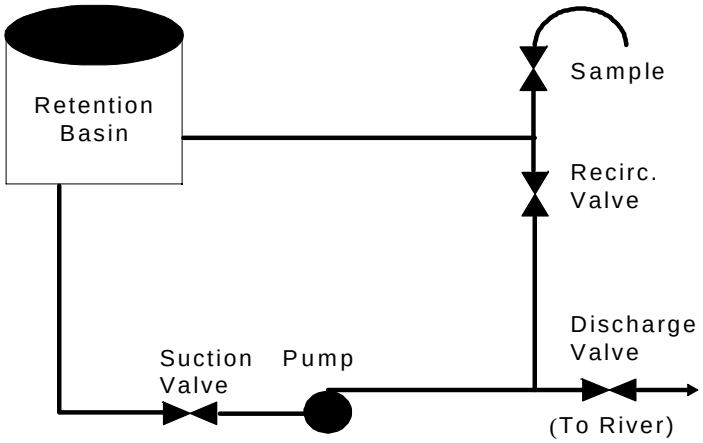
The next series of steps requires the operator to pump down the basin. He sets the procedure aside, checks the suction valve open, the recirculation valve open, and the pump running, as is required by the procedure. You notice that the next step is to shut fully the recirculation valve and then to open fully the discharge valve in that order. The operator throttles each valve in a series of steps until the recirculation valve is fully shut and the discharge valve is fully open.

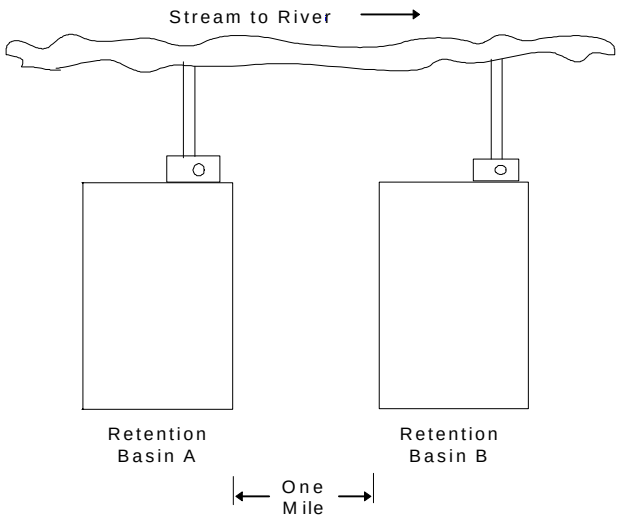
After the basin is pumped down and the operator has completed the procedure, you ask the operator why he throttled the valves vice shutting fully and opening fully as required by the procedure. The operator states "I don't know but it's always been done that way and that's how we do it at retention basin B". He then picks up the phone and asks for the shift supervisor. The shift supervisor comes out to the pump station and looks at the operator's copy of the procedure. After some discussion with the operator, he looks at you and states "the valves are throttled to prevent deadheading the pump".

You decide to take a second look around the pump house. During this observation, you identify that the procedure used does not have a formal approval signature from the supervisor. You turn to the operator who is with you in the pump house and ask why the operator aid has not been approved. The operator states that "we do not have operator aids in this facility".

Instructions:

1. Determine the initial deviations from expectations.
2. Validate your leads to determine whether what you have just observed is an isolated incident or a programmatic problem.
   - Be specific in wording what questions you will ask, what you will be looking for in a document and what you want to observe.
   - The facilitator assigned to your group will only give you the information you specifically ask for.
3. Formulate any deficiencies you have and be prepared to back them up with well researched facts.





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